

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number
WO 2005/067998 A1

(51) International Patent Classification⁷: **A61M 1/36**

(21) International Application Number:
PCT/EP2005/000536

(22) International Filing Date: 20 January 2005 (20.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04001073.8 20 January 2004 (20.01.2004) EP

(71) Applicant (for all designated States except US): **SORIN GROUP DEUTSCHLAND GMBH** [DE/DE]; Lindberghstrasse 25, 80939 Munich (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SCHREYER, Johann** [DE/DE]; Karl-Rahner-Strasse 15, 80999 München (DE). **KNOTT, Erwin** [DE/DE]; Franz-von-Defregger-Strasse 12, 85586 Poing (DE). **HAHN, Andreas** [DE/DE]; Kapellenweg 11, 82335 Berg (DE).

(74) Agents: **HOFFMANN EITLE** et al.; Arabellastrasse 4, 81925 München (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

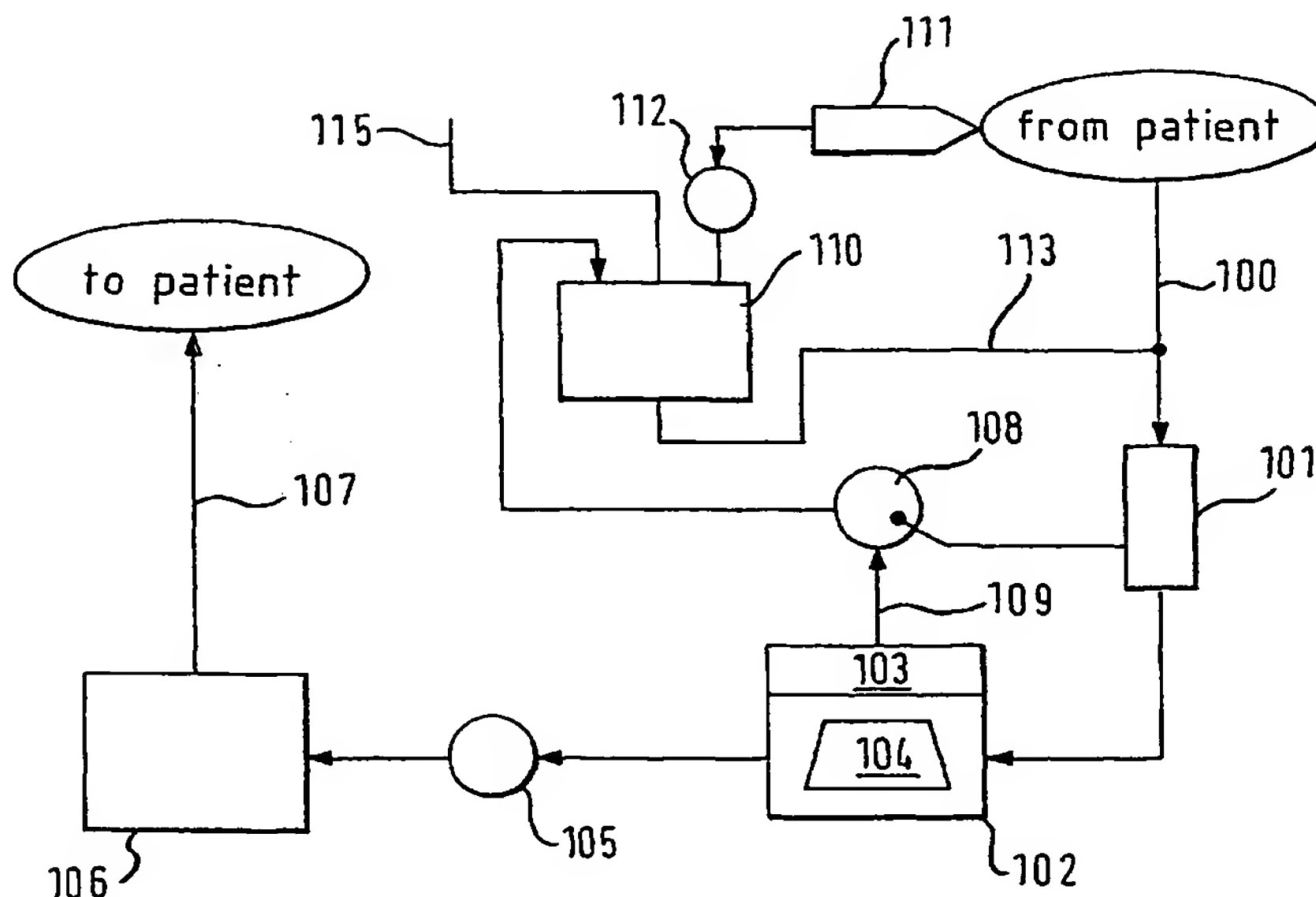
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: AUTOMATIC AIR REMOVAL SYSTEM



(57) Abstract: According to the invention, an apparatus for extracorporeal oxygenation of a patient's blood during cardiopulmonary bypass surgery comprises a bubble sensor 101, arranged at or connected to a venous line 100, for detecting bubbles in the venous blood received from the patient. When air bubbles are detected a second pump 109 is activated to draw air from an air chamber 103 provided in an air filter 102 connected to the venous line 100 and arranged downstream of said bubble sensor 101. A first pump 105 draws the blood from the air filter 102 and supplies the blood to an oxygenator 106 and to the patient via arterial line 107.

WO 2005/067998 A1



— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.